

# ADAM HALL

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## EDUCATION

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### University of Michigan, Ann Arbor

PhD in Statistics

December 2019

M.A. in Statistics

June 2015

Recipient of the Rackham Merit Fellowship

### University of California, Irvine

B.A. in Quantitative Economics & Sociology (Honors)

September 2011

Minors in Math, Statistics, & Philosophy

Recipient of a UROP Fellowship

Member of Phi Beta Kappa and Golden Key

## EXPERIENCE

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### US Census Bureau

August 3, 2020 - Present

*Research Mathematical Statistician Postdoc (40 hours / week)*

*Suitland, MD*

- Performing research extending my doctoral studies of spatial price indices and their estimation using data from sample surveys and large administrative databases, such as barcode scanner records, in preparation for eventual publication.
- Performing research related to the planning, collection, processing, analysis, and dissemination of data applicable to censuses, large scale sample surveys, and other data sources (e.g. administrative data and big data).
- Applying statistical theory and methodology, survey methodology, statistical computing, computer science, economics, demography and social and behavioral sciences.
- Evaluated publications documenting evidence of potential economic data leaks to financial markets, and presented findings to Bureau leadership.
- Developed code to facilitate data visualizations comparing American Community Survey estimates between states.
- Wrote scripts to help data users import P.L. 94-171 Redistricting Data Summary Files into R.
- Wrote R and Stan code to assist researchers in implementing Section 203 of the Voting Rights Act by evaluating models for the prevalence of language minority groups in small areas.

### University of Michigan, Ann Arbor

September 1, 2015 - September 30, 2019

*Graduate Student Researcher (40 hours / week)*

*Ann Arbor, MI*

- Conducted original, independent research to develop a novel method to estimate spatial price indices
- Used 2+ TB of data from retail barcode scanners to implement this method to compare the cost of food between 82 counties in Michigan using R, SQL, and Python
- Estimated the uncertainty associated with these indices using a cluster bootstrap method
- Published a 200+ page dissertation thesis describing the results
- Presented the approach and its finding to an academic audience at the University of Michigan economics department, as well as to the doctoral committee

### University of Michigan, Ann Arbor

August 1, 2013 - September 1, 2019

*Graduate Student Instructor (20 hours / week)*

*Ann Arbor, MI*

- Taught statistical topics for introductory to intermediate statistics courses, including the use of software tools such as R and SPSS
- Graded exams and homework assignments, developed questions for quizzes, and answered student questions during office hours and via email
- Helped students design survey samples for class projects and analyze the resulting data

### **CSCAR at the University of Michigan**

May 1, 2018 - May 1, 2019

*Statistical Consultant (20 hours / week)*

*Ann Arbor, MI*

- Provided technical expertise to graduate students and faculty resolve research-related statistical questions
- Assisted with tasks such as designing studies, specifying regression models, testing hypotheses, conducting power analyses, and modeling dependent data
- Assisted clients with using statistical software such as SPSS, R, and Python to analyze, visualize, and interpret results

### **Bureau of Economic Analysis**

June 1, 2015 - August 31, 2015

*Student Trainee (Economist) (40 hours / week)*

*Washington, DC*

- Researched the process by which regional price parities are estimated from raw price quotes underlying the Consumer Price Index, expenditure estimates from the Consumer Expenditure Survey, and other data from the American Community Survey.
- Wrote press releases to communicate economic findings to the public, reviewed economic data before release, and used SAS to produce supplementary tables upon public request
- Used statistical packages such as SAS and R with survey data from the ACS Public Use Microdata Sample to estimate county level rents using appropriate econometric techniques, and compared these to estimates obtained using the full microdata

## **PUBLICATIONS**

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### **A Spatial Unified Price Index**

*In Progress*

### **Unified Price Indices for Spatial Comparisons**

*September 2019*

## **TALKS**

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### **CSRM Seminar**

US Census Bureau

A Unified Price Index for Spatial Comparisons

*September 2020*

### **Economics Brown Bag Seminar**

University of Michigan

A Unified Price Index for Spatial Comparisons

*September 2018*

## **CERTIFICATIONS**

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### **DeepLearning.AI**

Convolutional Neural Networks

*In Progress*

Structuring Machine Learning Projects

*July 2021*

Improving Deep Neural Networks

*June 2021*

Neural Networks and Deep Learning

*April 2021*

### **Recurse Center**

Participant, Summer 1 Batch

*August 2020*

## **TECHNICAL SKILLS**

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### **Computer Languages**

R, Python, SAS, SQL, Stan, SPSS, Bash, HTML, CSS

### **Operating Systems**

Microsoft Windows, Mac OS X, Linux

### **Other Tools**

Microsoft Office, L<sup>A</sup>T<sub>E</sub>X, Git, Visual Studio Code, RStudio